

Office of Solid Waste



Environmental Fact Sheet

THE FACTS ON RECYCLING PLASTICS

FROM EPA'S *REPORT TO CONGRESS ON METHODS TO MANAGE AND CONTROL PLASTIC WASTES*

Discarded plastic products and packaging make up a growing proportion of municipal solid waste. By the year 2000, the amount of plastic we throw away will increase by 50 percent. Current volume estimates for plastic waste range from 14 to 21 percent of the waste stream. By weight plastics contribute seven percent, and less than one percent of plastic waste is currently recycled. Additionally, some plastic items end up as litter that poses ecological risk to the marine environment and aesthetic and economic loss. These facts, and EPA's belief that recycling is one of the most promising methods for reducing environmental impacts from wastes, have led to exploration of plastics recycling.

Are Plastics Recyclable?

The different types of plastics used in consumer products include: polyethylene in milk jugs, polypropylene in car battery cases, polyethylene terephthalate in soft drink bottles; polyvinyl chloride in cooking oil bottles, and polystyrene in food containers and foam cups.

All of these plastics are technically recyclable--that is, they can be remelted and formed into other items. The term "recyclable," however, also means that there is a way to collect and separate the materials and market the end products. The recyclability of plastics can therefore vary over time and location.

Both single resins and a mixture of plastics can be recycled, but the end products from a mixture are often lower in value than those from just one type of plastic. Therefore, the success of plastics recycling may depend on the development of technologies to separate mixed

plastics into single resins, and on increasing the markets for products of mixed plastic recycling. In sum, the answer to the question "Are plastics recyclable?" is a qualified yes.

What Is Being Recycled Now?

Less than one percent of plastics are currently recycled. Only a few plastic consumer items such as soft drink bottles and milk jugs are being recycled in the United States. Recycling of polystyrene food containers and cups is just getting started.

What Products Are Made from Recycled Plastics?

A wide variety of products can be made from recycled plastics. The type of resin recycled and how well it has been separated from other wastes and resins determines what products can be made.

Soft drink bottles are being recycled into fiberfill for coats, sleeping bags, and pillows; into carpeting; and into bottles for household cleaners. Milk jugs are being recycled into toys, flower pots, layers of detergent bottles, and base cups for soft drink bottles. Polystyrene food containers and cups are being recycled into note pad holders, stackable file holders, and pen/pencil holders, as well as cafeteria food trays, toys, and insulation.

If the plastics cannot be separated from each other into single resins, a mixture of plastics can be made into plastic lumber to be used for larger items such as park benches, docks, fences or pallets.

The Outlook for Plastics Recycling

Plastics recycling is just getting started, and like recycling of other commodities, its success will depend on the interaction between supply and demand. While the amount of plastic in the waste stream is large, the collection, separation, and cleaning of those products has proven difficult and sometimes expensive. Research is under way on methods to improve and mechanize these steps.

Markets for some recycled products, like soft drink bottles, appear to be well defined--while others are not. Commitment from manufacturers and processors of plastic resins to expand their use of recycled resins, along with increased government procurement of recycled plastics, will help solidify some markets.

Where Can I Find Additional Information?

Call EPA's RCRA/Superfund Hotline for a free copy of the Executive Summary of EPA's *Report to Congress on Methods to Manage and Control Plastic Wastes* (EPA/530-SW-89-051A). The toll-free number is 1-800-424-9346, or TDD 1-800-553-7672 for the hearing impaired. In Washington D.C., the number is 382-3000, or TDD 475-9652. The Hotline is open from 8:30 a.m. to 7:30 p.m. EST, Monday through Friday. Ask the Hotline for information on ordering the full report.